

Remarks

Claims 1-9, 11-19, 21 and 22 are pending in the application and stand rejected.

Claim rejections

Section 112

Although it is not explicitly stated, based on the "Response to Arguments" portion of the Office Action it is assumed that claims 1, 21 and 22 remain rejected under 35 USC 112, first paragraph as not providing enablement for $t_F = AF \times t_A^2$. The Applicant respectfully traverses. FIG. 2 of the application shows a graph labeled "Quadratic Acceleration" with t_F as the ordinate and t_A as the abscissa. The graph is indicated to correspond to the function $t_F = AF \times t_A^2$, and shows a curve having the well-known quadratic shape (for $t_A > 0$). Therefore, the application clearly provides support for the claimed quadratic function. Withdrawal of the rejection under 35 USC 112, first paragraph is respectfully requested.

Section 101

Further, although it is not explicitly stated, based on the "Response to Arguments" portion of the Office Action it is assumed that claims 1-9, 11-19, 21 and 22 remain rejected under 35 USC 101. The Applicant respectfully traverses. The Office Action states that the claims do not recite a tangible result. The Applicant disagrees. The claims recite "calculating the mean-time-between-failures (MTBF) for the product operating in a second environment based on the accelerated stress testing data." The MTBF has a well-established utility. For example, the MTBF helps determine product reliability. As pointed out in the specification at page 2, second paragraph, "the commercial viability of any product may be strongly determined by the product's reliability as potential users will not spend a significant sum of money on an unreliable product. The vital importance of product reliability spurred the emergence of Reliability Engineering as an engineering discipline that devotes itself to establishing, maintaining, and evolving the reliability of a product."

It is further observed that the Federal Circuit held in State Street Bank & Trust Company v. Signature Financial Group, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir.

1998) that "(...) the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result' -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." In the present invention, a method is applied to calculate the useful, concrete and tangible result of an MTBF value. Therefore, the claims are statutory. Withdrawal of the rejection under 35 USC 101 is respectfully requested.

Section 102

Claims 1-9, 11-19, 21 and 22 were rejected under 35 USC 102(a) as being anticipated by the ADI Reliability Handbook (hereafter, "ADI"). The Applicant respectfully traverses. The rejected claims are allowable over ADI for at least the reason that ADI does not disclose the relationship $t_F = AF \times t_A^2$ as required by independent claims 1, 21 and 22.

The Office Action points to equation (1) on page 11 of ADI as corresponding to the claimed relationship. The Applicant respectfully disagrees. The alleged equivalent formula, t_1/t_2 , is simply a linear ratio. The claimed relationship, by contrast, is a quadratic function. ADI does not show a quadratic relationship as claimed.

The Office Action further alleges that an exponential function as shown in ADI's equation (1) is equivalent to a quadratic function. However, an exponential function (e.g., $y = e^x$) is not equivalent to a quadratic function (e.g., $y = x^2$). The function $y = e^x$ increases much more rapidly than the function $y = x^2$ (for example, at $x=10$, $e^x = 22026.4657948067$ while for same value of x , $x^2 = 100$).

Taking a closer look at equation (1) of ADI in particular, even by rearranging the claimed equation in an effort to make it correspond the ADI equation, no correspondence can be obtained. Assuming only for purposes of discussion that ADI's t_1 corresponds to t_F and t_A corresponds to ADI's t_2 , rearranging the claimed equation to have t_F in the numerator and t_A in the denominator yields $t_F / t_A = AF \times t_A$, which looks nothing like ADI's equation (1)

Accordingly, claims 1, 21 and 22 are allowable over ADI. Claims 2-9 and 11-19 are likewise allowable over ADI for at least the reasons that they include the features of claim 1 by dependency thereon. Withdrawal of the rejection of claims 1-9, 11-19, 21 and 22 as anticipated by ADI is therefore respectfully requested.


Conclusion

In light of the above discussion, Applicant respectfully submits that the present application is in all aspects in allowable condition, and earnestly solicits favorable reconsideration and early issuance of a Notice of Allowance.

The Examiner is invited to contact the undersigned at (202) 220-4323 to discuss any matter concerning this application. The Office is authorized to charge any fees related to this communication to Deposit Account No. 11-0600.

Respectfully submitted,

Dated: Oct. 4, 2006

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